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Children and young people's conceptualisations of depression

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Short title: CHILDREN'S CONCEPTS OF DEPRESSION

Descriptive Title: *Children and Young People's Conceptualisations of Depression: a systematic review and narrative meta-synthesis*

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Abstract

Background: There is an increasing research interest in conceptualisations of mental illness, examined in association with help seeking, stigma and treatment preferences. A recent focus on young people's concepts has been identified, with depression being one of the most examined conditions.

Methods: The purpose of this systematic review is to synthesise evidence on children and adolescents' conceptualisations of depression, adopting the model of illness representations. The review further aims to examine developmental trends, gender differences and the role of experience. A systematic review and narrative meta-synthesis was conducted, reviewing 36 studies identified through a systematic search of six databases in March 2016.

Results: 36 quantitative and qualitative studies were included. Half of the young people are able to recognise depression and recognition increases when symptoms are more severe (e.g. suicidality). Young people are able to name a variety of causes for depression. Mental health professionals are considered the appropriate source of help by half of the young people, followed by family and peers. However, stigma constitutes a major barrier to help-seeking. There are developmental trends and gender differences in young people's conceptualisation of depression, while experience with depression is associated with a broader conceptualisation.

Conclusions: Young people's concepts of depression resemble aspects of adult conceptualisations, however are sometimes incomplete. Further research on younger children and clinical populations is needed. Research on young people's conceptualisations informs both clinical practice and mental health literacy interventions.

(words: 233)

1. Introduction

This paper provides the first systematic review of children and adolescents' health perceptions relating to depression. Early onset depression is associated with increased disability, greater **negative** psychosocial consequences, increased medical and psychiatric comorbidity, and increased risk of depression in adulthood (Altamura et al., 2008; Costello et al., 2005; Ghio et al., 2014; Zisook et al., 2007). However, one third of young people with depression or anxiety seek professional help (Gulliver et al., 2010; Kataoka et al., 2002).

The aetiology for not seeking treatment is associated to either failure to recognise symptoms or to barriers related to seeking help, once the need is identified. Low perceived need of help is the most common reason for not seeking treatment (Gulliver et al., 2010). Attitudinal barriers to help-seeking (e.g. perceived consequences of treatment and stigma) are more important than structural factors (e.g. location, cost of treatment) (Andrade et al., 2014). While adult literature on health beliefs is extensive, the literature on young people's beliefs about depression has only recently gained research interest. From a public health perspective, efforts to unravel young people's conceptualisations are necessary to inform the development of effective health education and promotion. Research focusing on young people's mental health literacy (Jorm et al., 1997) highlights the relation between concepts of mental illness and help-seeking. However, research specifically on children's understanding of depression is limited and derives from various research fields (e.g. nursing, health and developmental psychology), whose diverging aims and methods result in variability of findings. There is a need to synthesise findings, aiming to specify the level of our current knowledge on children and adolescents' concepts of depression, to develop future research that would inform both health education and clinical practice.

In this review, the model of illness representations (Leventhal et al., 1980) is used as an organisational framework to examine children and adolescents' conceptualisations of depression. Leventhal and colleagues (1980) explained adult illness representations in terms of five dimensions: identity (label of the illness and symptoms), timeline (acute, cyclic or chronic), causes (perceived aetiology), consequences (physical and social impact) and cure/control (perceived personal or treatment control over the outcome), the latter defined and added to the model by Lau and Hartman (1983). The model has been successfully used to systematically review perceptions of depression and anxiety among adults (Prins et al., 2008) as well as empirically study children's physical illness concepts (Myant & Williams, 2005; Williams & Binnie, 2002). Although the model derives from adult literature, it allows a thorough examination of children's concepts, introducing the five dimensions of illness representations. As such, it provides a detailed and structured organisational framework for a systematic review of studies with diverse foci.

Prins et al. (2008) report that both experience and demographic factors (age, gender and ethnicity) influence depression beliefs. The general population tend to conceptualise psychological or environmental causes of depression and to prefer psychological treatments. Conversely, depressed adults stress biological factors and show a preference for pharmacotherapy. In addition, the proportion of adult patients **indicating** a need for help varied significantly (from 49% to 84%), while the majority of patients expected treatment benefits within one month.

Prevention and early intervention for mental health problems are priorities and challenges in mental health globally (Collins et al., 2011). Psychoeducation is becoming widely used either as a component of therapeutic interventions (e.g. Cognitive Behavioural Therapy) or on its own for lower level psychological difficulties (passive psychoeducation) and is effective in reducing symptoms and psychological distress (Donker et al., 2009). Similarly,

evidence indicates that mental health literacy programmes in schools are associated with increased knowledge and help-seeking, although the current level of evidence does not allow for robust conclusions (Wei et al., 2013). Psychoeducation and mental health literacy interventions presuppose an understanding of young people's existing perceptions of depression, an understanding of how these conceptualisations develop with age, and the factors that relate to young people's concepts.

Thus, a systematic review approach was adopted, with the aim to collect all empirical evidence that corresponds to the research questions, following pre-specified eligibility criteria to minimise bias (Higgins, 2011). The methodology allows for the most reliable evidence to be reviewed (Chalmers, 1993). Systematic reviews follow a strict design that is based on explicit, pre-specified and replicable methods (Centre for Reviews and Dissemination (CRD), 2009; Higgins, 2011). As such, decisions about the methods, including: review question, inclusion criteria, search strategy, study selection, data extraction, quality assessment and data synthesis are predefined (CRD, 2009).

Aim of the review

The aim of this review is to explore children and adolescents'[1] conceptualisations of depression. Specifically, the research questions are:

1. What are children and adolescents' concepts of depression, categorised according to Leventhal et al.'s (1980) framework?
2. Are age and gender associated to young people's concepts of depression?

[1] Throughout the text, the term "children" refers to young people up to the age of 12 years, while "adolescents" is used for young people between 12 and 19 years of age. When the term "young people" is used, it refers to both children and adolescents; that is all young people up to the age of 19 years.

3. Is experience of depression (direct or indirect through a parent or peer) associated to young people's concepts of depression?

2. Methodology

2.1. Study Design

A variety of study designs were eligible, aiming to capture all existing relevant studies. Therefore, qualitative, quantitative and mixed methods research were included, to provide a more holistic approach to young people's concepts of depression. Inclusion and exclusion criteria are presented in Table 1. As the illness representation model is used in this review to organise results, studies using alternative theories were not excluded.

[Insert Table 1 here]

2.2. Study Selection

The literature search was conducted in March 2016. A database search was conducted in the following databases: Web of science, Medline, PsycINFO, Embase, CINAHL and Academic Search Elite. The keyword Boolean search formulated included the following words:

(child* OR adolescen* OR "young people") AND (depress* OR "mood disorder" OR "mental health" OR "mentally ill" OR "mental illness") AND ("concept* of" OR "perception of" OR understand of OR experience* OR "views about" OR "views of" OR belief* OR literacy)

The initial literature search yielded 6,781 results screened by abstract or title. 98 studies were identified as possible eligible studies and 6,671 results were excluded in this step. 110 studies were obtained and examined on full text according to inclusion and exclusion criteria. 31 studies were identified and included; the remaining did not meet criteria (n=79). In addition,

a citation search of relevant studies was conducted, providing five studies that met inclusion criteria. The final number of studies included is 36. The flow of the literature search is illustrated in Figure 1.

[Insert Figure 1 here]

2.3. Assessment of Methodological Quality

Two separate instruments were selected for a thorough examination of quality of the included studies. The National Institute for Health and Clinical Excellence (NICE) methodology checklist (2009) was used for the qualitative studies and a modified version of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) instrument (STROBE initiative, 2007) was used for quantitative studies.

Following NICE recommendations, one author conducted the quality appraisal of all included studies, while a second reviewer conducted the quality assessment of a random selection of more than 10% of studies to measure inter-rater reliability (NICE, 2012). A random selection of qualitative, quantitative and mixed methods studies were assessed by the second reviewer (n=13, 36%). For mixed methods studies, both tools were used.

2.4. Data Extraction

The data extraction was performed by both authors, adapted from a data extraction form used in a similar review with adults (Prins et al., 2008) (see Table 2). Any differences were resolved through discussion.

2.5. Data Analysis

To answer question 1, the findings were categorised in five main dimensions: identity causes, consequences, timeline and cure/control (Leventhal et al., 1980). Subsequently, to

answer question 2, findings that examined developmental trends and gender differences are presented separately. Finally, to answer question 3, the findings in each of the five dimensions are structured in the following dichotomous way: results from the general population are presented first, followed by respective findings from young people with an experience of depression (e.g. clinical samples or children of depressed parents). The results of quantitative studies did not lend them themselves to meta-analysis. Therefore, a narrative review of the findings of both quantitative and qualitative data was conducted.

3. Results

3.1 Description of Results

3.1.1. Participants.

36 studies were reviewed, including 9,930 young people. Participants are balanced in terms of gender (50.9% male). The mean age was 14.7 years, varying from six to 19 years.

3.1.2. Description of studies and quality assessment.

The majority of studies are from the USA (n=13), followed by studies from Canada (n=6), Australia (n=5), Ireland (n=5), the UK (n=3) and one each from New Zealand, Sweden, Iran, and China. The studies were conducted between 1985 and 2016 (see Table 3). Fourteen studies constitute inductive explorations of young people's experiences or concepts of depression using grounded theory, ethnography or phenomenology, and as such no theoretical frameworks have been imposed. In the remaining studies, the following frameworks/theories are reported: mental health literacy (N=11), attribution theory (N=5), network episode model (N=2), illness representation model (N=1). In three studies, no theoretical background is described.

The methodological quality is presented in tables 4 and 5. The majority of studies were assessed as having high quality (HQ) (n=19) or good quality (GQ) (n= 15), few studies were considered of low quality (LQ) (n=2). All studies were included, however results from LQ studies should be interpreted with caution. Inter-rater reliability was very good for both qualitative (Cohen's k=0.805) and quantitative studies (k=0.890).

3.2. Analysis of Results

3.2.1. Young people's beliefs about depression.

3.2.1.1. Identity (number of studies n=17, HQ=10, GQ=7)

Depression recognition in a vignette is examined in ten studies, with correct recognition varying from 23.4 to 73%, with an average of 40.8 % (N=6,130, mean age=15.2 years) (Bruno et al., 2015; Burns & Rapee, 2006; Byrne et al., 2015; Coles et al., 2016; Essau et al., 2013; Hernan et al., 2010; Lam et al., 2014; Marshall & Dunstan, 2013; Melas et al., 2013; Olsson & Kennedy, 2010). Social isolation was found to be a central characteristic of depressed peers, as attributed by their peers (Siegel and Griffin, 1983).

Among the clinical sample, diagnosed adolescents highlight a sense of isolation and anger/violence towards oneself and/or others as central symptoms of their experience with depression (Midgley et al., 2015). Older adolescents with depressive symptoms describe "struggling" to make sense of their mental state (Meadus, 2007). The duration and the extent of "abnormality" of symptoms (i.e. suicidal ideation) constituted the starting point of considering a diagnosis for adolescents (Wisdom & Green, 2004; Wisdom et al., 2006). Thus, it is often the family that noticed the symptoms and encouraged seeking treatment (Lindsey et al., 2010; Wisdom & Agnor, 2007).

"Just because I had been that way for so long that I didn't think it could be depression"

Wisdom and Green, 2004, p.1234

3.2.1.2. Causes (n=10, HQ=6, GQ=4)

In studies from the general child/adolescent population, primarily environmental and relational causes (e.g. relationships with parents, traumatic events) or individual attributes (e.g. low effort, cognitive causes) are reported (Cogan et al., 2005; Coleman et al., 2009; Essau et al., 2013; Fox et al., 2010; Hennessy & Heary, 2009; Hetherington & Stoppard, 2002), while biological and genetic factors are less frequently suggested.

In a study with a clinical and general group, both groups refer to primarily environmental causes (Cogan et al., 2005). In the clinical population, causes are explored in five studies. The most recurring themes include: parenting and relationships with parents or significant others (Farmer, 2002; Wisdom et al., 2007), significant life events (Cogan et al., 2005; Garley et al., 1997; Wisdom & Green, 2004), biological factors (Cogan et al., 2005; Garley et al., 1997; Wisdom et al., 2007) and personal psychological factors (Garley et al., 1997; Wisdom et al., 2007).

3.2.1.3. Consequences (n=16, HQ=9, GQ=7)

This dimension refers to the physical or social consequences of depression in young people. The most recurrent theme between both clinical and general population samples was stigmatising beliefs and attitudes towards depressed peers.

In the general sample (n=8), acceptance of a depressed character was associated with attributed control and responsibility for their depressive symptoms in three studies (Dolphin & Hennessy, 2014; Peterson et al., 1985, Swords et al., 2011a). If depressed, adolescent girls discussed concerns regarding telling friends and being rejected from peers (Pinto-Foltz et al., 2010). Conversely, in one study comparing depression and schizophrenia, less stigmatising attitudes towards depression are reported (Melas et al., 2013). Further, young people consider

withdrawal to be a primary consequence of depression in two studies (Hetherington & Stoppard, 2002; Siegel & Griffin, 1983), while suicide, violence and alcohol or drug use are considered as consequences of depression in one study (Fleming et al., 2012).

In the clinical sample (n=9), interviewed adolescents report denying symptoms to peers (Wisdom & Agnor, 2007). Adolescents with depression report feeling isolated, either due to feeling stigmatised or rejected (Woodgate, 2006) or due to purposefully withdrawing (Midgley et al., 2015). Social isolation was explained from some as a strategy providing relief (Meadus, 2007), however for others was experienced as "making things worse" (Migley et al., 2015). Other adolescents isolated themselves to avoid appearing different from peers (Farmer, 2002). Similarly, children of depressed parents (n=3) describe the unavailability and withdrawal of the parent with depression (Cogan et al., 2005; Garley et al., 1997; Meadus & Johnson, 2000).

3.2.1.4. Timeline (n=9, HQ=5, GQ=4)

In four studies (N= 1,500, m= 16.1 years) using identical measures ("Friend in Need Questionnaire") the mean timeline was 3.32, indicating a timeline to recovery ranging between 1-2 months and more than a few months (Bruno et al., 2015; Burns & Rapee, 2006; Coles et al., 2015; Marshall & Dunstan, 2013). In a study with younger children (6 to 11 years), more than half chose a time between less than a month and six months (Fox et al., 2010). Older participants also believed in less favourable prognosis, in a study with children aged 6 to 17 years (Swords et al., 2011a). Gender differences in perceived timeline are reported in one study (Byrne et al., 2015) (see section 3.2.2.2).

In the clinical population, participants with more severe symptoms and a longer course of depression tended to view depression as a chronic or permanent condition (Meadus, 2007; Wisdom & Green, 2004). Children of depressed parents referred to depression as a chronic but also controllable condition (Garley et al., 1997).

3.2.1.5. Cure/Control (n=25, HQ=12, GQ=11, LQ=2)

This dimension refers to beliefs about whether the illness can be treated and cured and to the perceived control (either personal or treatment control) over the outcome. Regarding research on young people's depression beliefs, this dimension includes beliefs about help-seeking and particularly the need for and sources of help.

Amongst the general population studies (n=15), perceived need of help is examined in seven. High percentages of adolescents suggest that a depressed character needs help, varying between 68.8 and 98.6% (Bruno et al., 2015; Byrne et al., 2015; Coles et al., 2015; Marshall & Dunstan, 2013; Melas et al., 2013; Olsson & Kennedy, 2010; Swords et al., 2011b).

Sources of help are explored in eleven studies (N=5,005 participants, m=15 years) (Bruno et al., 2015; Burns & Rapee, 2006; Byrne et al., 2015; Coles et al., 2016; Essau et al., 2013; Fox et al., 2010; Hennessy & Heary, 2009; Marshall & Dunstan, 2013; Melas et al., 2013; Olsson & Kennedy, 2010; Swords et al., 2011b). Professional help (43.52%) and family (43.02%) were the most recommended source of help, followed by friends (40.96%), doctors (31.92%) and teachers (22.75%) (see Figure 2). However, in some studies the definition of categories is not explained (e.g. professional help might refer to mental health professionals or doctors). One study found that only 22.5% suggested professional help, while 76.5% mentioned non-professional help (Melas et al., 2013). In two studies, 16% and 12.7% of participants consider dealing with depression alone as a helpful strategy (Essau et al., 2013; Jorm et al., 2006 respectively), with boys and participants with an indirect experience being more likely to endorse this belief. In a focus group study, the majority of non-depressed adolescents believe that their depressed peers would not seek help for depression, often explained as due to a failure to recognise the need for help (Fleming et al., 2012). In one study, most adolescents refer to offering social support to a hypothetically depressed peer, followed

by unhelpful responses and engaging an adult (Kelly & Jorm, 2007), the latter being the principal theme discussed by adolescent girls in a qualitative study (Pinto-Foltz et al., 2010).

[Insert Figure 2 here]

In the clinical population (n=10), adolescents report the family as the first source of help (Lindsey et al., 2010) or value family support (Wisdom & Agnor, 2007; Woodgate, 2006). Peers are considered an important source of help; however, the unavailability of peers to offer help was also reported (Hetherington & Stoppard, 2002; Wisdom & Agnor, 2007). Adolescents consider dealing with depression alone as appropriate, admitting embarrassment in using mental health services (Lindsey et al., 2010). They report using self-help strategies including social interaction, behavioural activities, whereas risky/non-productive activities were mentioned less often (Wisdom & Barker, 2006). A common emerging theme concerned the participants' views of mental health professionals, often viewed as a potential barrier to treatment. The participants described desired qualities in professionals, including trustworthiness, empathy, non-judgemental attitude and flexibility regarding treatment (Meadus, 2007; Woodgate, 2006). Feeling that they are listened to and included in treatment contributes to a better prognosis, while adolescents report feeling devalued when they were quickly diagnosed and prescribed with medication (Wisdom et al., 2006; Woodgate et al., 2006).

"A lot of the time it feels like doctors aren't really listening to me. It feels like they listen to my parents, but they're not paying attention to me… That's why I don't want to see [my doctor]" (15 y.o. treated male)

Wisdom et al*., 2006, p.140*

Children of depressed parents (n=3) report difficulties understanding their parents' depression, thus suggest the family doctor (GP) or school as possible sources of information (Cogan et al., 2005; Garley et al., 1997; Meadus & Johnson, 2000):

"I think the doctor should like try and explain in the best way possible what has happened… not too much cos I wouldn't have understood. I think schools should give some more education about it cos we have only ever had like one lesson about it (mental health problems) and I don't think that's enough, no one really understood it at all."

Cogan et al.*, 2005, p.58*

3.2.2. Demographic variables associated with children and adolescents' conceptualisations of depression.

3.2.2.1. Age (n=7, HQ=5, GQ=2).

Age trends in children and adolescents' depression beliefs are explored in seven studies (N=3,830). Younger children (6-7 years) conceptualise depression as a physical illness more than older children (8-11 years) who start relating depression to thinking/feeling (Fox et al., 2010). In a study with children aged 8-18 years, Coleman et al. (2009) found that as children age, they are significantly less likely (10% decrease for each year older) to endorse genetic factors, brain differences or stress as causes (Coleman et al., 2009). Young adolescents (12-14 years) endorsed significantly more "God's Will" or physical health as causes, while older adolescents (15-17 years) were more likely to endorse upbringing and life events (Essau et al., 2013). There was no significant age difference in the frequency of reporting professional help in a study with younger children (6 to 11 years) or in a study with 8 to 14 year-olds (Hennessy & Heary, 2009). However, older adolescents (16 years) suggested mental health professionals as a source of help more often (42.8%) than younger ones (12 and 14 years, 17.7%, 22.2%

respectively) and believed more in the depressed character's need for hep (Swords et al., 2011b). Older participants rated less positively a depressed character than younger ones (Peterson et al., 1985) and were significantly less accepting of a male depressed character (Swords et al., 2011a). However, in the latter study, no significant differences for a female depressed character were found.

3.2.2.2. Gender (N=13, HQ=9, GQ=3, LQ=1)

Gender differences in depression concepts are examined in thirteen studies (N=5,106). Girls were found significantly more likely to recognise depression in four studies (Burns & Rapee, 2006; Coles et al., 2016; Marshall & Dunstan, 2013; Melas et al., 2013), while no differences in recognition were reported in one study (Byrne et al., 2015). Girls are more concerned about a depressed peer and suggest a longer time needed for recovery (Burns & Rapee, 2006; Byrne et al., 2015; Coles et al., 2015; Marshall & Dunstan, 2013). Girls were found more likely to identify a need for help (Byrne et al., 2015; Coles et al., 2015), offer help (Byrne et al., 2015; Olsson & Kennedy, 2010; Melas et al., 2013) and recommend sources of help (Coles et al., 2015). Boys are more likely to endorse dealing with depression alone (Jorm et al., 2006) and believe that they would worsen the situation if they were to help a peer (Kelly & Jorm, 2007). Girls in one study reported significantly more personal barriers to seeking help (Hernan et al., 2010). Regarding stigmatising attitudes, girls assign less responsibility and are more positive towards a depressed peer (Dolphin & Hennesy, 2014; Swords et al., 2011a), while boys score higher in social distance (Kelly & Jorm, 2007). Minimal gender differences are reported in the remaining two studies (Coleman et al., 2009; Fox et al., 2010). It is worth noting that both studies included younger participants (m_1= 12.9 and m_2=9.4 years respectively) than the remaining studies (m=15.3 years).

3.2.2.3. The role of experience of depression

The variety of study designs, aims and populations does not allow for robust findings to be drawn regarding the role of experience. In the general population, the role of experience (indirect or previous) of depression in adolescent concepts is explored in three studies (HQ=1, GQ=1, LQ=1). Adolescents with experience were more likely to believe in the helpfulness of dealing with depression alone (Jorm et al., 2006) and to attribute depression to parenting, substance abuse or low effort (Coleman et al., 2009). Kelly and Jorm (2007) report no significant associations.

Comparing clinical and general population studies, differences are evident. The general population report perceived environmental or relational causes of depression (e.g. Esssau et al., 2013), while the clinical population show an elaborate understanding of pathways to depression, as for example mentioning genetic and environmental interactions (e.g. Wisdom & Green, 2004). Regarding timeline and curability, while both general and clinical populations refer to depression as primarily an acute illness, participants with an experience and more severe symptoms are more reserved, discussing the chronic or permanent character of depression and the ineffectiveness of treatment (e.g. Wisdom & Green, 2004). The clinical population refer to mental health professionals and professional treatment (e.g. Meadus, 2007; Wisdom et al., 2006), while the general population frequently refer to family and peers for help (e.g. Marshall & Dunstan, 2013). Regarding barriers to treatment, the general population report confidentiality and stigmatising attitudes, whereas depressed young people expand on specific aspects of treatment, as for example the attitudes of professionals (e.g. Meadus, 2007) or the side effects of medication (e.g. Wisdom & Green, 2004).

4. Discussion

The aim of this review is to explore children and adolescents' conceptualisations of depression and to examine factors associated with their beliefs. 36 studies were included, categorised and analysed according to the aspects of illness representations (Leventhal et al., 1980). Treatment and consequences of depression are examined in most studies, the latter primarily concerning perceived stigma. Below key elements of the findings are discussed, specifically examining coherence between elements of depression concepts and the impact of age, gender and experience.

4.1. Children and Adolescents' Representations of Depression

This review reveals associations between the dimensions described by Leventhal and colleagues (1980, see also Hagger & Orbell, 2003). The recognition and perceived timeline of depression is associated with help-seeking strategies (e.g. Coles et al., 2016). **Perceived** causes are associated to **perceived** consequences (Fox et al., 2010) and perceived stigma (Dolphin & Hennessy, 2014). The results indicate that identity, timeline and cure/control are also associated, for example, with response to the diagnosis and the extent to which depression is viewed as a permanent illness are related to engagement in treatment (e.g. Wisdom & Green, 2004). Adopting the self-regulation model of illness representations would allow to further test such associations, to expand our understanding of young people's depression concepts and open new research directions. As current research is primarily focused on recognition, perceived curability and recovery times, the illness representations framework would broaden the research focus to a range of possible aspects of children's concepts.

4.2. Sources of help and treatment barriers

This review shows that children and adolescents from the general population consider family to be one of the primary sources of help for depression. However, depressed adolescents

emphasise issues of confidentiality and are especially concerned about information shared with their parents. This finding reflects previous research, where confidentiality was a principal concern in relation to adolescents' help-seeking (Draucker, 2005; Gulliver et al., 2010). Similarly, for the general population, peer support is highly valued, however, for clinical samples, actual or perceived stigma is a barrier to approaching friends for help or support. Friends and family are considered primary sources of help for the general population, however research with clinical samples shows that barriers are introduced once the young person is affected by depression, which confirms previous research (Wilson et al., 2007). Depressed young people highlight the stigma of mental illness, their embarrassment to reveal their symptoms and their reluctance to seek informal help. Longitudinal, mixed methods designs would provide data into how barriers develop when young people are affected by depression.

Further, stigmatising beliefs appear to increase with age; as children develop more sophisticated conceptualisations, they develop a greater appreciation of the reaction of others to mental illness. This finding is particularly important for anti-stigma programmes. Re-evaluating the age range that such initiatives target appears reasonable.

4.3. Factors influencing young people's depression concepts

4.3.1. Age

In this review, developmental trends in children and adolescents' conceptualisations were found, confirming previous literature (Adler & Wahl, 1998; Coie & Pennington 1976; Fox et al., 2008; Wahl, 2002). Older children and adolescents provide more sophisticated explanations of causes, consequences and curability of depression, whereas younger children more frequently view depression as a biological disorder and underreport the need for professional help. The finding that younger children can be biologically reductionist about health-related concepts and causes of disabilities has been reported in other research (Smith & Williams,

2004). This highlights the need for age sensitivity in health education and psycho-education materials on depression.

4.3.2. Gender

The findings partially indicate that girls have more comprehensive conceptualisations of depression than boys of the same age. The findings are parallel to adult studies, some of which report gender differences, indicating that women have increased mental health literacy, in terms of their ability to recognise depression (e.g. Cotton et al., 2006; Dahlberg et al., 2008; Deen & Bridges 2011) and to suggest helpful treatment options (Cotton et al., 2006) or to be more willing to receive treatment (e.g. Coppens et al., 2013; Prins et al., 2008). Gender related barriers to help-seeking should be considered in the development and delivery of health educational programmes. In the younger samples, gender was not found to differentiate children's views. Thus, there is need for future research to examine the interaction between age and gender in children's depression concepts.

4.3.3. Experience

The results indicate that a personal or indirect experience of depression is associated with young people's depression conceptualisations. However, even adolescents with an experience (direct/indirect) report a willingness to acquire further information about depression, a finding that reflects research on parental mental illness (Gladstone et al., 2011). This finding further strengthens the argument that psychoeducation is needed for all young people regardless of their level of depression experience.

4.4. Strengths and Limitations of the Review

This review constitutes the first attempt to systematically draw together literature on young people's concepts of depression, and the first to review a specific mental illness rather than the general term of 'mental illness'. The strength of systematically reviewing of both qualitative and quantitative studies lies in the concentration of research findings from different research areas as well as from diverse populations. Furthermore, this standardised approach includes an assessment of the quality of evidence, which allows one to pinpoint areas where further research is required.

However, limitations cannot be overlooked. The quality assessment was based on the reported aspects of the methodology and no authors were contacted for additional information, which might have led to lower quality assessment. As there was considerable heterogeneity of studies, it was not possible to conduct a meta-analysis, thus limiting the results to descriptive findings. For the same reason, comparisons between populations (general, clinical and children of depressed parents) were not possible. Specifically, most of the studies in the general population used quantitative approaches, while all of the studies in clinical populations used qualitative approaches. Research with children with different levels of experience of depression (no experience, indirect and personal) would shed light on how experience of depression affects young people's understanding of the disorder.

4.5. Limitations of included studies

The main limitation concerns the operationalisation of the concept of depression. Most of the studies used one depression vignette and the gender of the presented character is counterbalanced in only half of the cases (n=10), with the rest using primarily female characters (n=6, male n=2). Three studies examined differences in terms of the gender of the vignette and found significant differences. Future research should examine gender of the character as a

possible variable related to young people's beliefs, as young people might view male and female peers with mental health problems differently (e.g. Swords et al., 2011a).

The majority of the quantitative studies used predefined closed response categories, which might limit the spectrum of possible responses. Mixed methods would allow to broaden young people's responses by using open-ended questions (e.g. Hennessy & Heary, 2009), while generating quantifiable data to measure associations between variables and groups. In addition, few studies focused on younger children (below 12 years); although there are age and gender differences, the evidence is scarce.

4.6. Implications for clinical practice and education

Psychoeducation is widely used as part of therapeutic interventions and recently as a strategy to improve help-seeking. However, in the absence of a strong evidence base, the contents of such interventions are based primarily on clinical expertise rather than research findings. In this review, the need to increase young people's mental health literacy is evident. Young people with no experience, depressed adolescents and children of depressed parents struggle to identify or make sense of depression symptoms.

Thus, in terms of the content of psychoeducational interventions, there is a need to improve young people's knowledge of depressive symptoms. Secondly, increasing young people's awareness of available professional help is required. It is hopeful that professional help was the most frequently reported source of help in this review, however less than half of the participants referred to professionals. Covering the different roles of professionals and treatment durations might be beneficial. Educational interventions should also consider including a component on providing mental health help to a friend, as friends are valued as sources of help. Such initiatives have recently been introduced and delivered in schools (Hart et al., 2016). Finally, professionals working with depressed young people should also be aware

of young people's preconceptions and explore these in combination with treatment expectations (e.g. recovery timeline).

Although this review allows us to identify potential areas of focus for psychoeducation interventions that could in turn promote help-seeking, the complexity of this process should be acknowledged. It is evident in this review that stigma constitutes a major barrier for young people to seek treatment and thus further research is needed in this area.

4.7. Future Research Directions

This review highlights the need for studies to focus on concepts of specific mental health problems. The adoption of theoretical frameworks such as Leventhal et al.'s (1980) model and cognitive development models used in children's understanding of physical illness (Myant & Williams, 2005; Siegal & Peterson, 1999) would allow an in-depth exploration of illness representations. For example, recognition and perceived timeline were associated to help-seeking suggestions. Similarly, other dimensions of the model (e.g. perceived consequences) could inform our understanding of barriers or facilitators in the help-seeking process.

Although the illness representation model constitutes a useful framework to explore children's knowledge, it does not draw the links between knowledge and attitudes towards mental illness. However, it constitutes a useful framework for synthesising research in mental illness conceptualisations, especially as currently there is little research on young people's mental health concepts. The next step would be exploring the links between these concepts and behaviour or attitudes. Using alternative theoretical models might be necessary to understand how knowledge translates into stigmatising attitudes and help-seeking behaviour. For instance, attribution theory, used in some of the included studies (Coleman et al., 2009; Dolphin & Hennessy, 2014; Swords et al., 2011a) and other mental illness stigma studies (for a review, see Corrigan, 2000) is an appealing framework linking knowledge and behaviour.

In this review, it was evident that both approaches (qualitative/quantitative) provide insight into young people's depression concepts. Instead of insisting on the traditional division, mixed methods designs, as the "integrative mixed methods paradigm" (Castro et al., 2010), would allow studies to benefit from both approaches simultaneously, to examine complex concepts and behaviours, such as help-seeking.

Conclusions

Children and adolescents do have a range of conceptualisations of depression, however these are sometimes incomplete. Participants of all ages, genders and with different levels of experience struggle to recognise or make sense of depression. Mental health education is needed to inform young people's concepts and thus facilitate effective and timely help-seeking. The results of this review indicate areas that psychoeducational material should address. Professionals working with young people with depression should be aware that young people do hold preconceptions of depression, and foster, where relevant, realistic expectations. Research on young people's depression concepts is in its infancy; further research would inform mental health educational interventions. Research is needed to specify factors related to young people's depression representations and to further understand the relationships between depression knowledge, help-seeking and stigma.

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An asterisk in the beginning of the reference (*) indicates that the study is included in the review.

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Figure 1:
Flow Chart

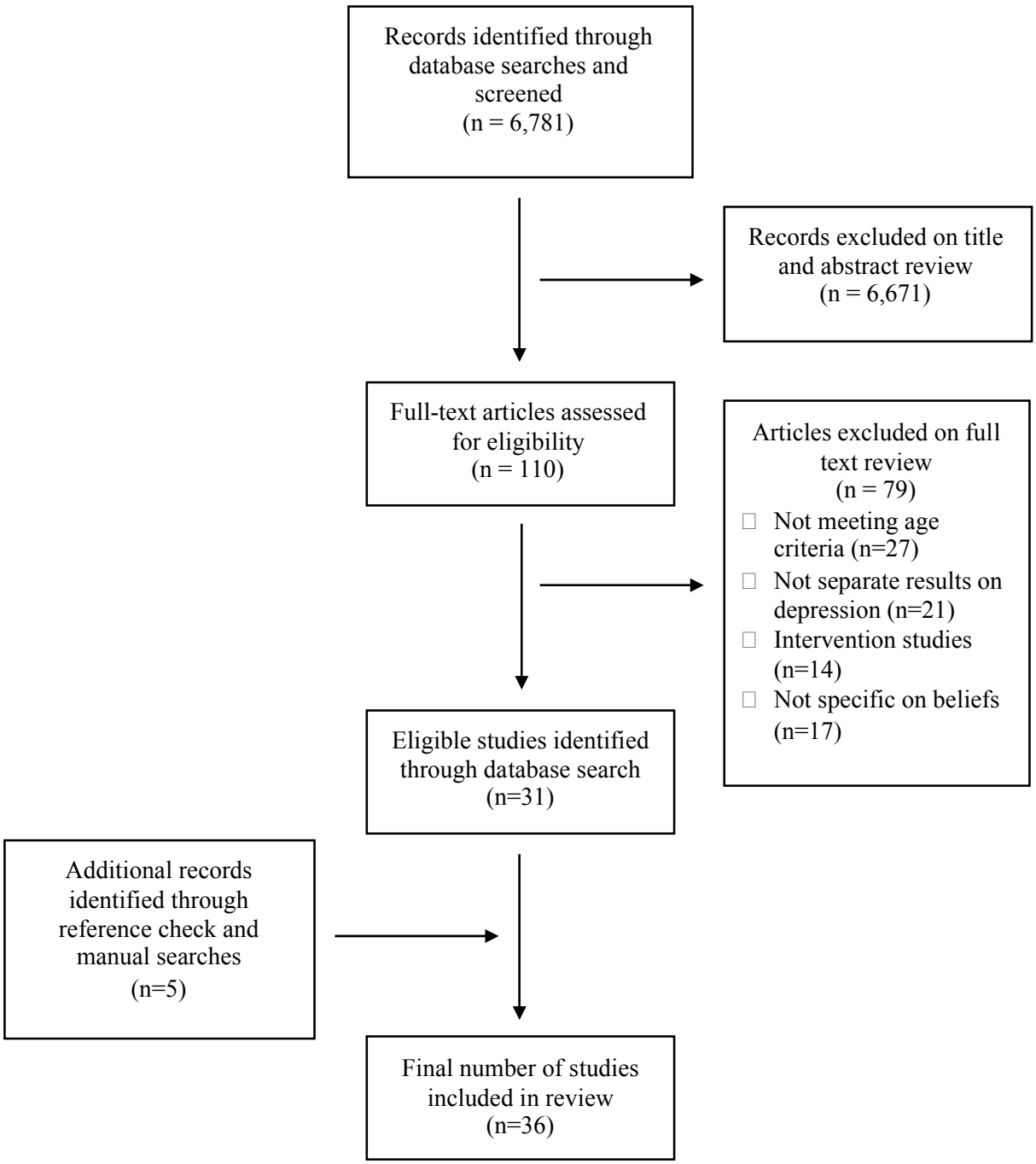
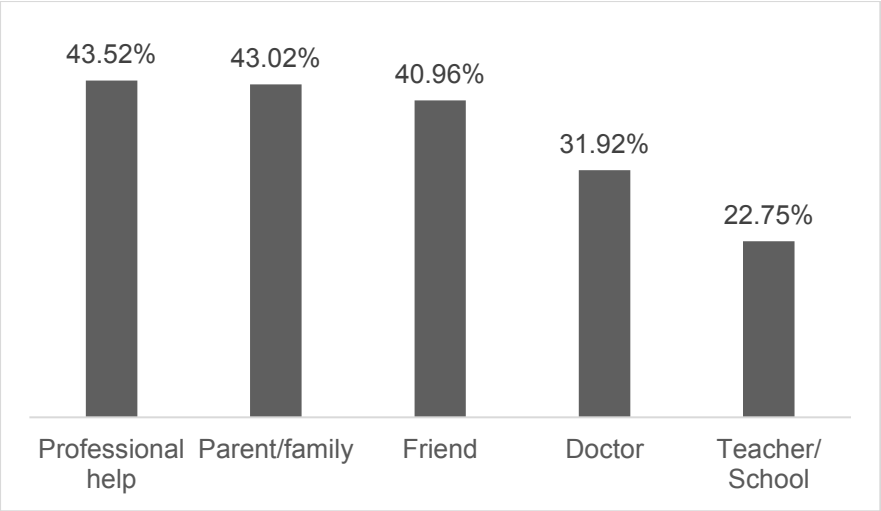


Figure 2:

Suggested Sources of Help



Note. N=5,005, Mean age m=15 years. Categories were not mutually exclusive, therefore sum of percentages exceeds 100%.

Table 1:

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Participants' age is less than 19 years, according to WHO definition of adolescence.	The study does not specify the mental illness of the participant or parent (e.g. children of parents with mental illness).
The research question refers to the participants' understanding and beliefs about depression, including at least one of the five dimensions of the model.	The study does not provide separate results for depression, when various mental health disorders are examined
The article is written in English.	The study does not report age and gender of the participants.
Studies are published in peer-reviewed journals.	Studies examining solely attitudes (e.g. help-seeking) towards mental health/ people with mental illness were excluded.

Table 2:

Data Extraction

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
2015	Bruno et al.	USA	72	Older Adolescents M= 17.54 (SD = 0.52)	72 male 0 female	Adolescents in 12th grade in all-male private school.	General population.	Cross sectional design: Quantitative questionnaire with vignettes.	Quantitative analysis: Descriptive and frequency analyses and t-tests	Recognition of symptoms, help seeking, time-line	√			√	√
2006	Burns & Rapee	Australia	202	Older adolescents: 15–17	80 female 122 male	Year 11 students from two private single-sex schools of Sydney.	General population.	Cross sectional design: Quantitative questionnaire with vignettes.	Quantitative analysis: Analysis of variance (ANOVA) and non-parametric statistics	Recognition of symptoms, help seeking, time-line	√			√	√
2015	Byrne	Ireland	187	Older adolescents: 15 to 19 17.04 years (SD = 0.949)	96 female 91 male	Students in 4th to 6th grade, from 3 secondary schools in rural counties in the Republic of Ireland.	General population.	Quasi-experimental within-subjects design using questionnaire with vignettes.	Mixed methods: Quantitative: Descriptive ANOVA, χ^2. Qualitative: conventional content analysis.	Recognition of symptoms, help seeking, time-line	√			√	√
2005	Cogan et al.	UK	Children of affected parents: n=20 Comparative children n=20	Adolescents: 12-17 (M=13.81) 13-17 (M=14.72)	10 female/10 male 10 female/ 10 male	White Scottish children and matched control children, all living in social inclusion partnership.	Children of parents diagnosed with affective illness (n=20), according to ICD-10 criteria and control.	Qualitative study: Semi structured individual interviews Household Demographic Questionnaire	Qualitative data analysis	Children's understanding and experience of parent's depression.		√	√		√

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
2009	Coleman et al.	USA	N= 339 (in the depression condition)	Older children and adolescents: Three age groups (10-11,12-14 and 15-18)	51.3% female 48.7% male	Representative sample of the general population of the US.	General population.	Cross sectional study: Quantitative online survey using vignette and adapted version of Social Distance Scale	Quantitative analysis: hierarchical logistic regression analysis	Causes of depression, ADHD and asthma.		√			
2016	Coles et al.	USA	N= 1104	Older adolescents: M= 16.05 years, SD= 1.27	48.4% female 51.6% male	Students in 9th to 12th grade in a public high school in upstate New York	General population.	Cross sectional design: Quantitative questionnaire with vignettes.	Quantitative analysis: ANOVA, binary logistic regression analysis.	Recognition of symptoms, help seeking, time-line for depression and social anxiety.	√			√	√
2014	Dolphin & Hennessy	Ireland	N= 401	Adolescents: 14.75-17.08 M= 15.9, SD= 0.403	53.1% female (n=213) 46.9% male (n=188)	Irish secondary school students from ten, non-fee paying, single sex secondary schools	General population.	Cross sectional study: Quantitative questionnaire survey with vignette and items on: Personal control subscale of CDSII /Perceived responsibility/emotional reactions/Friendship Activity Scale	Quantitative analysis: Structural Equation Modelling	Causal attributions; Peer acceptance			√		
2013	Essau et al.	Iran	1984	Adolescents: 12-17 (M=14.49, SD=1.7)	50.7% female 49.3% male	Iranian students from 16 urban and suburban schools in Ahvaz City	General population.	Cross sectional design: Quantitative questionnaire survey using vignette	Quantitative analysis using Cohen's h (arcsine Transformation)	Causes, help seeking (types of help, first aid actions) & preventive strategies.	√	√			√

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
2002	Farmer, T.J.	USA	N=5	Adolescents: 13–17	3 female 2 male	Caucasian, Hispanic and African American adolescents recruited from a south-western outpatient mental health facility.	Adolescents diagnosed by qualified therapists.	Qualitative study: Open-ended individual interviews	Phenomenological analysis	Adolescents' perspectives of the experience of depression.		√	√		
2012	Fleming et al.	New Zealand	n=39	Adolescents: 13-16	74% male 26% female	Adolescents excluded from mainstream education 49% Maori; 38% Pacific Island	General population	Qualitative study: 8 Focus groups with semi-structured interviews	Qualitative analysis using inductive approach (Thomas, 2006)	Help-seeking, Consequences, Opinions about cCBT			√		√
2010	Fox et al.	UK	Study I: N= 122 Study II: N=118	Children: Study I: 3 age groups (6-7,8-9,10-11) Study II: 3 age groups (6-7, 8-9,10-11)	Study I: In three groups: 21/ 20/21 female and 19/20/ 21 male Study II: In three groups: 19/21/18	Students from three primary schools in Warwickshire, UK.	General population.	Cross sectional design: Individual structured interviews using vignettes and response cards	Quantitative analysis: Hi-log-linear analysis	Study I: Causes and consequences Study II: Curability and time-line		√		√	√
1997	Garley et al.	Canada	N=6	Older children and younger adolescents: 11–15	Balanced in terms of gender.	Children of depressed parents, the majority of which were separated.	Children of parents with depression or manic depression.	Qualitative study: Four focus groups with semi-structured interviews	Qualitative analysis	Children's subjective needs, cognitions and perceptions.		√	√	√	√

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
2009	Hennessy & Heary	Ireland	N=116 (N=56 in quantitative analysis)	Older children and younger adolescents: 3 age group (8.4,11.5, 14.3 years)	Equal numbers of female and male.	Caucasian students attending co-educational public primary and secondary schools in Dublin, Ireland.	General population.	Mixed methods cross sectional design: Focus groups and individual interviews using vignettes.	Mixed methods research: qualitative analysis and non-parametric statistics	Causes and source of help for depression, conduct disorder and ADHD.		√			√
2010	Hernan et al.	Australia	N=74	Adolescents: 14–16 (mean age 15)	41 female 33 male	Students from two rural secondary schools.	General population.	Cross sectional design: Questionnaire with depression vignette	Quantitative analysis: Factor analysis	Helpfulness of professionals, help seeking and barriers.	√				
2002	Hetherington & Stoppard	Canada	N=14	Adolescents: 14-17 (majority being15)	14 female 0 male	Non-depressed high school students (grade 10 and 9), the majority of which were Canadian.	General population.	Qualitative study: Semi-structured interviews	Qualitative analysis: Grounded theory method	Social interaction and depression, causes and coping.		√	√		√
2006	Jorm et al.*	Australia	Adolescent Survey I: N=564	Adolescents: Survey I: 14-16 (mean age 15.5 years)	Survey I: 276 female	Survey I: convenience sample of students in years 8, 9 and 10.	General population.	Cross sectional design: Quantitative questionnaire with vignette administered at school	Quantitative analysis: logistic regression analysis	Recognition, helpfulness of treatments, sources of help, self-coping, outcomes with/without treatment.					√

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
2007	Kelly & Jorm	Australia	N=1,123 571 in depression	Adolescents: 12–17 years (mean age: 15.5)	49% female 51% male	Students in years 8 to 10 of schools in the Australian Capital Territory and South Australia.	General population.	Cross sectional design: Survey using vignettes and Strengths and Difficulties Questionnaire, Social Distance Scale	Quantitative analysis: logistic regression analysis	Hypothetical help-offering to peers with CD or depression, social distance.					√
2014	Lam	China	N= 1,678	13 to 17 years.	832 female 826 male	Students from 12 high schools.	General population N = 248, (14.8%) could be classified as exhibiting moderate to severe symptoms of depression.	Cross sectional design using quantitative questionnaire and vignettes.	Quantitative analysis: Descriptive, frequency analysis and multivariate linear regression analyses	Recognition of depression, help-seeking intentions and barriers, beliefs about informal interventions.	√				
2010	Lindsey et al.	USA	N=69 (N=18 of which participated in interviews)	Adolescents: Mean age: 15.3 (SD= 1.25)	0 female 69 male	African American male adolescents recruited from: outpatient community mental health services, a private practice and three community based programmes for high-risk youth.	Adolescents with elevated depressive symptoms according to the CES-D scale.	Mixed methods triangulation design: Attitudes towards Seeking Professional Help Scale, Social Support Scale, demographic information) and qualitative interviews	Mixed methods analysis including statistical ANOVA and MANOVA and qualitative inductive coding techniques	Stigma of depression and social support, help-seeking.	√				√
2013	Marshall & Dunstan	Australia	N=122	Adolescents: 12-18 (M= 16, SD=1)	49 male 73 female	Rural based Australian adolescents	General population	Cross sectional design: Quantitative questionnaire using vignettes and short films	Quantitative analysis: Chi-square & t-tests and effect sizes (Odds Ratios, Cramer's V)	Recognition, perceived causes, sources of help, self-help strategies	√			√	√

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
2007	Meadus, R.J.	Canada	N=9	Older adolescents: 15-18	8 female 1 male	Diagnosed adolescents receiving treatment in an inpatient or outpatient mental health centre or hospital. All participants were taking antidepressant medication.	Adolescents diagnosed with MDD or bipolar disorder	Qualitative study: Unstructured individual interviews	Qualitative analysis: Grounded theory	Theory of adolescent coping with depression.	√		√	√	√
2000	Meadus & Johnson	Canada	N=3	Older adolescents: 17	3 female 0 male	High school girls of a depressed parent, 2 of them recruited from a psychiatric facility and the third from a volunteer organisation.	Children of parents with either bipolar disorder or unipolar depression.	Qualitative study: Two individual unstructured interviews	Qualitative Phenomenological analysis	Children's experience of parental depression			√		√
2013	Melas et al.	Sweden	n = 426	Older adolescents (15-19) M=16	62.2% female 36.1% male 1.6 % unknown	Students at English-speaking high schools located in Stockholm, Sweden.	General population.	Mixed Methods: Questionnaire using vignettes.	Mixed Methods: Qualitative content analysis (Burnard, 1991) Quantitative statistical analysis	Recognition, Help-seeking, Providing help to hypothetical peer	√		√		√
2015	Midgley	UK	N=77	11-17 years M = 15.86, SD =1.77	55 female 22 male	Adolescents with a diagnosis of unipolar depression, taking part in IMPACT trial. 50% white British, 14% mixed, 7% black/black British, 5% Asian/Asian British, and 8% as any other ethnic group	Adolescents with unipolar depression with moderate to severe impairment, referred to CAMHS but had not commenced treatment.	Qualitative study: Semi-structured interview	Qualitative analysis: Framework Analysis	Experience of depression and expectations of therapy.	√		√		
2010	Olsson & Kennedy	USA	N= 281	Children and Adolescents m=14	150 female 131 male	High school students in a small public school in Virginia, US	General population.	Cross sectional design: Quantitative questionnaire using vignettes	Quantitative analysis: MANOVA	Recognition, sources of help, help seeking intentions, views of mental health resources	√				√

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
1985	Peterson et al.	USA	163	Two age groups with mean ages: 9.27 & 11.16	93 female 70 male	Students in fourth to sixth grade in public schools in USA	General population.	Cross sectional design: Quantitative questionnaire after using video of depressed child	Quantitative analysis: MANOVA	Affiliation or rejections of target child and perceived positive or negative current and future behaviour			√		
2010	Pinto-Foltz et al.	USA	N=21	Younger adolescents: 13-15	21 female 0 male	Adolescent girls with middle to lower socioeconomic status, recruited from a public high school located in an urban area in the US.	General population.	Qualitative study: Two focus groups guided by a semi-structured interview guide	Qualitative analysis: Grounded theory	Causes, behaviour of depressed peers, stigma, help-offering.			√		√
1983	Siegel & Griffin	USA	N= 99	12 to 18 y.o. m= 15	46 female 53 male	Students in eighth to twelfth grade in middle-class community in Missouri	General population.	Cross sectional design: Questionnaire with open-ended questions	Mixed methods: Qualitative classification of responses and subsequent factor analysis	Characteristics of depressed adolescents	√		√		
2011a	Swords et al.	Ireland	N=595	Children and Adolescents: 5 age groups (mean ages: 6,9,12,14,17)	According to age group: 39, 45, 41, 80, 66 female (N= 271)	Students from 20 randomly selected primary and secondary schools in Ireland.	General population.	Cross sectional design: Questionnaire with open and closed questions regarding vignettes	Quantitative analysis: Structural equation modelling	Models of acceptance of peers with depression and ADHD.			√	√	
2011b	Swords et al.	Ireland	N=393	Older children and Adolescents: Three age groups (12-13, 14-15,16-19)	According to age group: 41, 80, 66 female (N=187)	Students from randomly selected primary and secondary schools	General population.	Cross sectional design: Questionnaire with vignettes. Socio-demographic questionnaire to parents	Quantitative analysis: Analysis of variance (ANOVA) and chi-square statistics	Children's beliefs about need for and sources of help for peers with depression or ADHD.					√

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
2007	Wisdom & Agnor	USA	N=15	Adolescents: 14-19 (mean age: 16,3)	8 female 7 male	White non-Hispanic (N=13) and Hispanic (N=2) diagnosed adolescents with unipolar depression, some of which were receiving treatment (antidepressant medication and/or psychotherapy).	Adolescents diagnosed with unipolar depression by their HMO primary care physician.	Qualitative study: Individual in-depth interviews in person or by phone	Qualitative analysis: grounded theory	Family and peer influence on beliefs about depression.	√		√		√
2006	Wisdom & Barker	USA	N=14	Adolescents: 14-19	7 female 7 male	White non-Hispanic (N=12) and Hispanic (N=2) diagnosed adolescents with unipolar depression, some of which were receiving treatment (antidepressant medication and/or psychotherapy).	Adolescents diagnosed with unipolar depression by their HMO primary care physician.	Qualitative study: Individual in-depth interviews in person or by phone	Qualitative analysis: grounded theory	Self-coping with depression.					√
2004	Wisdom & Green	USA	N=15	Adolescents: 14-19 (mean age: 16,3)	8 female 7 male	White non-Hispanic (N=13) and Hispanic (N=2) diagnosed adolescents with unipolar depression, some of which were receiving treatment (antidepressant medication and/or psychotherapy).	Adolescents diagnosed with unipolar depression by their HMO primary care physician.	Qualitative study: Individual in-depth interviews in person or by phone	Qualitative analysis: grounded theory	Adolescents coping with depression, timeline approach.	√	√		√	
2006	Wisdom et al.	USA	N=22	Older Adolescents: Mean age 15,86	13 female 9 male	Focus group (N=7) of adolescents recruited from an urban high school and diagnosed adolescents (N=15) recruited from a non-profit organisation that provides outpatient and inpatient care in Washington, US.	Treated and untreated adolescents diagnosed with MDD, dysthymia, depression non-otherwise specified and adolescents from the general population.	Qualitative study: Individual in-depth interviews in person or by phone	Qualitative analysis: grounded theory	Barriers to help seeking for depression.	√				√
2007	Wisdom et al.	USA	N=22	Older Adolescents: Mean age 15,86	13 female 9 male	Focus group (N=7) of adolescents recruited from an urban high school and diagnosed adolescents (N=15) recruited from a non-profit organisation that provides outpatient and inpatient care in Washington, US.	Treated and untreated adolescents diagnosed with MDD, dysthymia, depression non-otherwise specified and adolescents from the general population.	Qualitative study: Individual in-depth interviews in person or by phone	Qualitative analysis: grounded theory	Children's beliefs about the role of gender in depression.		√			

Year	*First author*	*Country*	*Number of participants*	*Age*	*Gender*	*Participants*	*Clinical Status*	*Measurements and Study design*	*Analysis*	*Focus*	*Identity*	*Causes*	*Consequence*	*Timeline*	*Cure/ Control*
2006	Woodgate, R.L.	Canada	N=14	Adolescents: 13.5-18 (mean age: 16)	11 female 3 male	Adolescents diagnosed at least 18 months prior to the study receiving treatment (antidepressants or psychotherapy). 12 participants had a comorbid mental health condition and/or learning disability.	Adolescents with a formal diagnosis of depression.	Qualitative study: Individual open-ended interviews	Qualitative analysis: Descriptive and interpretive phenomenology	Adolescents' perspectives of the experience of depression.			√		√

Table 3:

Study types

		Participants' clinical status		
Study design		General population (n=23, N=9,705, 97.73%)	Clinical Population (n=10, N=196, 1.97%)	Child of depressed parent (n=3, N=29, .29%)
	Qualitative (n=15, N=250)	94	127	29
	Quantitative (n=16, N=8,783)	8,783	/	/
	Mixed methods (n=5, N= 897)	828	69	/

Note. n: number of studies, N: number of participants.

Table 4:

Quality assessment of qualitative studies

Study		Nice Checklist													
		Theoretical approach				Validity			Analysis						
Year	Author	Approach	Study aims	Study Design	Data Collection	Role of Researcher	Context	Reliability	Rigorous	Data "rich"	Reliability	Convincing findings	Relevance to aims	Conclusions	Ethics	**Final Assessment**
2015	Byrne et al.	+	+	+	+	0	+	+	0	+	0	+	+	+	+	+
2005	Cogan et al.	+	+	+	+	+	+	+	+	+	0	+	+	+	+	++
2002	Farmer	+	+	+	+	+	0	-	+	+	+	+	+	+	0	++
2012	Fleming et al.	+	+	-	-	-	+	0	+	+	+	+	+	+	+	+
1997	Garley et al.	+	+	+	+	0	0	0	-	+	+	+	+	+	+	+
2009	Hennessy & Heary	+	+	+	-	0	+	+	+	+	+	+	+	+	+	++
2001	Hetherington & Stoppard	+	+	+	+	0	-	-	+	+	+	+	+	+	+	++
2010	Lindsey et al.	+	+	+	+	0	+	+	+	+	+	+	+	+	-	++
2007	Meadus	+	+	-	+	0	+	+	+	+	+	+	-	+	+	++
2000	Meadus & Johnson	+	+	-	+	0	+	+	+	+	+	+	-	+	+	++
2013	Melas	+	+	+	-	0	0	+	+	+	+	+	+	+	+	+
2015	Midgley et al.	+	+	+	+	0	+	+	+	+	+	+	+	+	+	++
2010	Pinto-Foltz et al.	+	+	-	+	+	+	+	+	-	+	+	+	-	-	+
1983	Siegel & Griffin	+	+	-	-	0	+	+	+	-	+	+	+	-	+	+
2007	Wisdom & Agnor	+	+	-	+	0	+	-	+	+	+	+	+	+	-	+

2006	Wisdom & Barker	-	+	-	-	0	-	-	-	-	+	+	+	+	+	-
2004	Wisdom & Green	+	+	+	-	0	+	-	+	+	+	+	+	+	-	+
2006	Wisdom et al.	+	+	+	-	0	+	-	+	+	+	+	+	+	-	+
2007	Wisdom et al.	+	+	+	-	0	-	-	+	+	+	+	+	+	+	+
2006	Woodgate	+	+	-	+	0	+	-	+	+	0	+	+	+	+	+

Table 5:
Quality assessment of quantitative studies

STUDY		Aims & study design	Descriptive Data	Variables	Statistical Methods	Results and Main Data	Interpretation	Bias & Limitations	Final Assessment
Year	First author								
2015	Bruno et al.	+	+	+	-	+	+	+	+
2006	Burns & Rapee	+	+	+	+	+	+	+	++
2015	Byrne et al.	+	+	+	+	+	+	+	++
2009	Coleman et al.	+	+	+	+	+	+	+	++
2016	Coles et al.	+	+	+	+	+	+	+	++
2014	Dolphin & Hennessy	+	+	+	+	+	+	+	++
2013	Essau et al.	+	+	+	+	+	+	+	++
2010	Fox et al.	+	+	+	+	-	+	+	+
2009	Hennessy & Heary	+	+	+	+	-	+	+	+
2010	Hernan et al.	+	+	+	+	-	+	+	+
2006	Jorm et al.	+	-	+	-	-	+	+	-
2007	Kelly & Jorm	+	+	+	+	-	+	+	+
2014	Lam et al.	+	+	+	+	+	+	+	++
2010	Lindsey et al.	+	+	+	+	-	+	+	+
2013	Marshall & Dunstan	+	+	+	+	+	+	+	++
2013	Melas et al.	+	+	+	+	+	+	+	++
2010	Olsson & Kennedy	+	+	+	+	+	+	+	++
1985	Peterson et al.	+	+	+	0	+	+	+	+
1983	Siegel & Griffin	+	+	+	0	-	+	+	+
2011a	Swords et al.	+	+	+	+	+	+	+	++
2011b	Swords et al.	+	+	+	+	+	+	+	++